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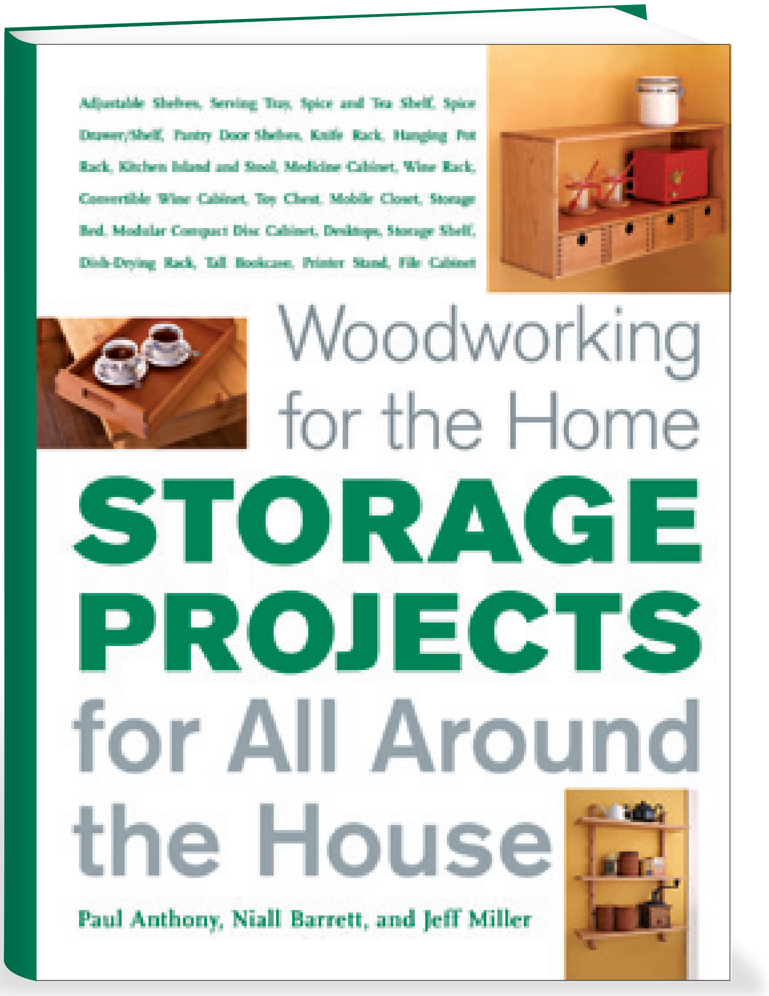

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Paul Anthony, Niall Barrett, and Jeff Miller

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CUTTING BOARD AND KNIFE RACK

Niall Barrett

THESE TWO PROJECTS GO hand-in-hand. After all, to cut and chop food you need both knives and a cutting board. Nevertheless, they are independent projects and may be built separately.

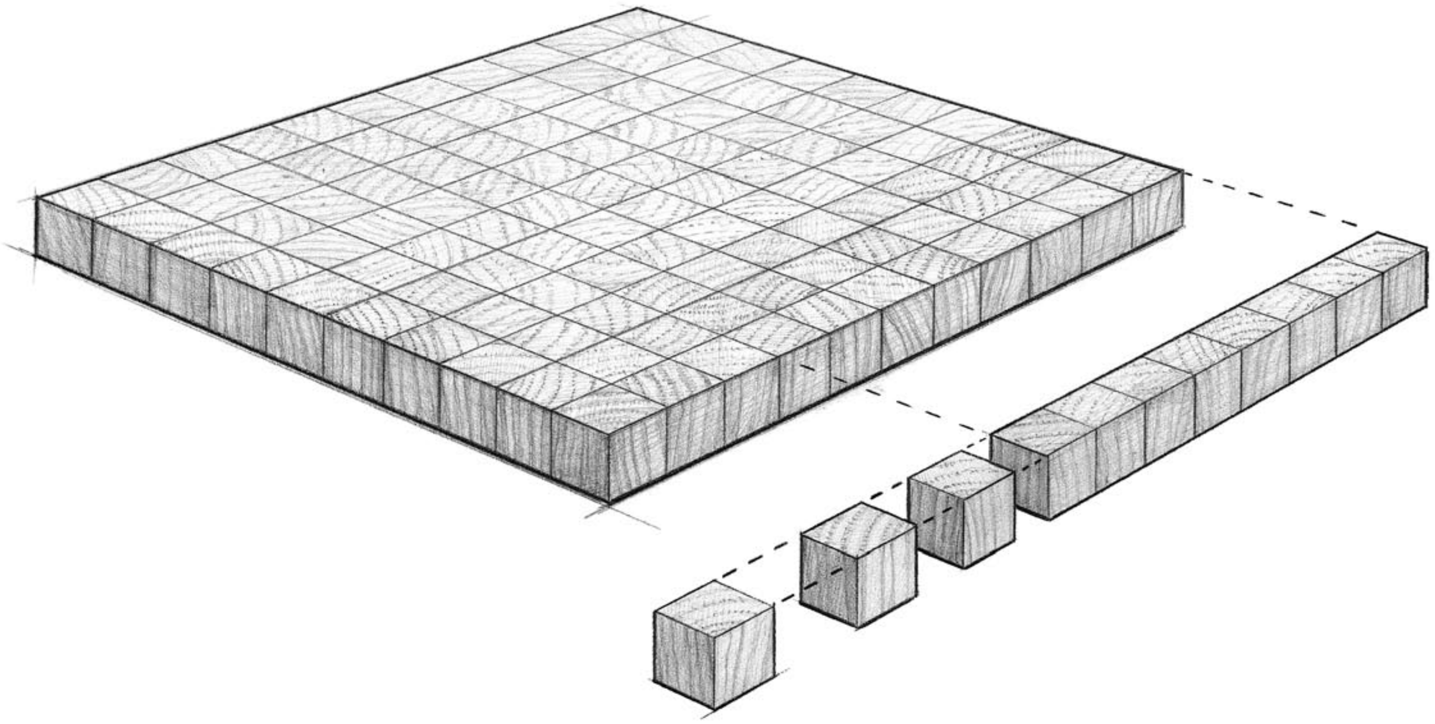
If you buy a "butcher block" cutting board these days, chances are what you'll get is a board with lengthwise strips of wood glued together. If you have ever seen a real butcher block, as in one really used by butchers, you may have noticed that it is rather different. A true butcher block is constructed of many pieces of wood arranged so that the grain of the wood runs vertically (up and down).

End grain is a superior cutting surface because it is able to "heal" itself. When the knife strikes this type of surface during cutting, the grain of the wood actually separates and then closes when the knife is removed. The wood itself is not cut; instead, you are cutting between the fibers. This ensures that knives keep their edge and that knife scars heal to maintain a clean working surface.

In contrast, "butcher blocks" made with the grain running lengthwise don't last. When drawing a knife across this surface, the wood fibers are cut slightly, creating a permanent wound. Over time, with thousands of cuts on the surface, the block will scar substantially, giving food places to lodge, and will deteriorate rather badly over the years.

Having said all this, it is quite a bit more work to produce a true butcher block. However, I thought it would be worth doing on a smaller scale. The construction process is interesting, and the surface created is extremely attractive. Think of this cutting board as a butcher block for your counter.

CUTTING BOARD



Making the Plank

THE FIRST STEP IN MAKING this cutting board is to build a conventional plank with edge-grain construction. Make sure that the strips are straight, flat, and square so that the glued-up top will be also. You might be tempted to use biscuits or dowels to align the pieces, but don't. You will be recutting this top and reassembling it; any biscuits or dowels would show.

CUT LIST FOR CUTTING BOARD

121	Blocks	1$\frac{13}{16}$" x 1$\frac{13}{16}$" x 2"	solid cherry

Other materials

Mineral oil

1. Rip 8/4 flatsawn stock into 11 strips, approximately 2 in. wide and 24 in. long.

2. Joint and thickness-plane the strips to 1$\frac{13}{16}$ in. by 1$\frac{13}{16}$ in.

3. Glue them together to produce a quartersawn top 20 in. wide, 1$\frac{13}{16}$ in. thick, and 24 in. long. (By "quartersawn," I mean that all the end grain should run perpendicular to the face of the assembled butcher block.) You will have less trouble if you glue up these pieces a couple at a time until you have the top completed.

4. When the top is complete and the glue is dry, clean the top and flatten any minor irregularities with a belt sander or (preferably) a handplane. Be very careful with all

Top and Side Views

The handsome end-grain cutting surface of this board doesn't show knife marks and will last a lifetime.

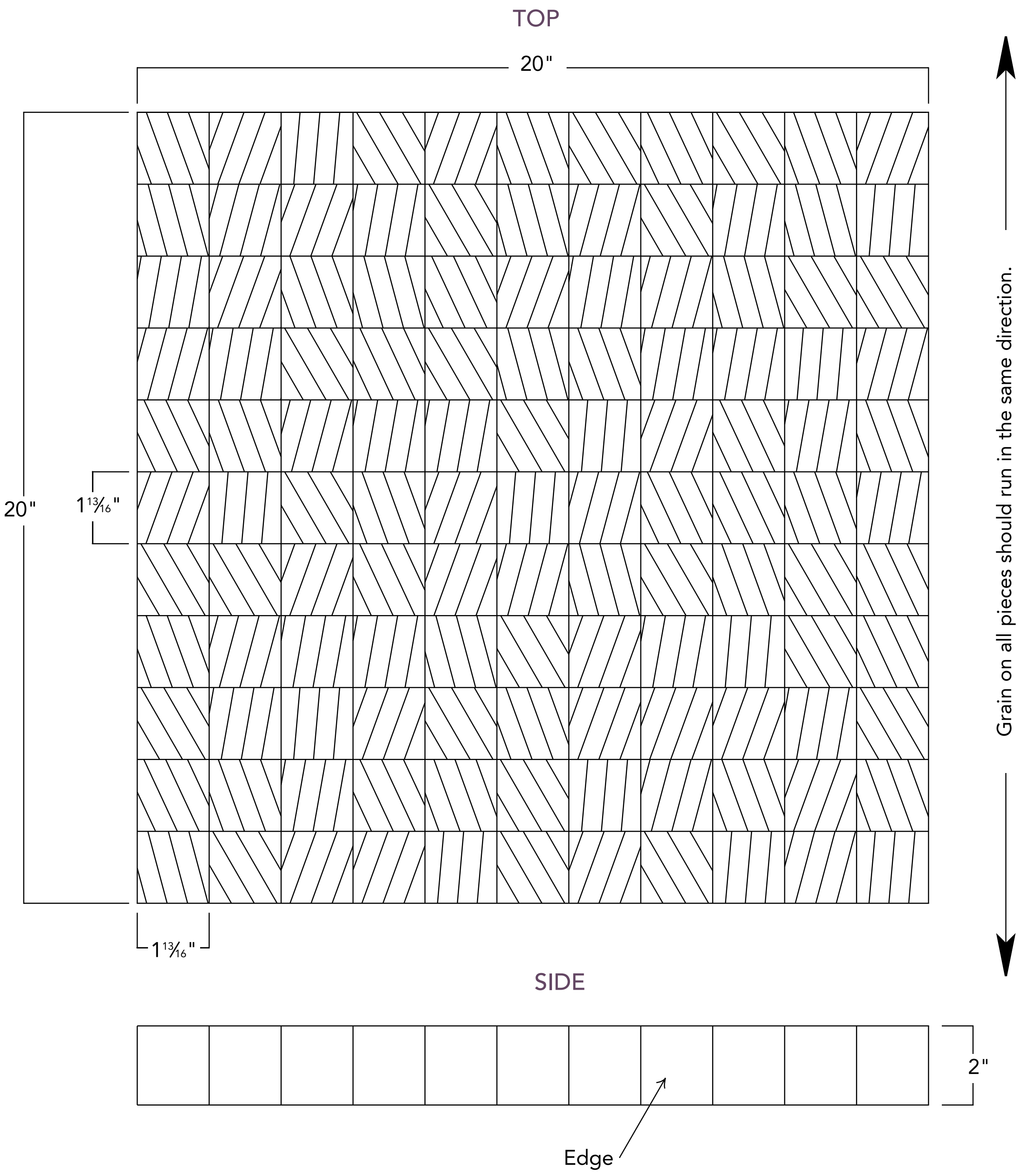
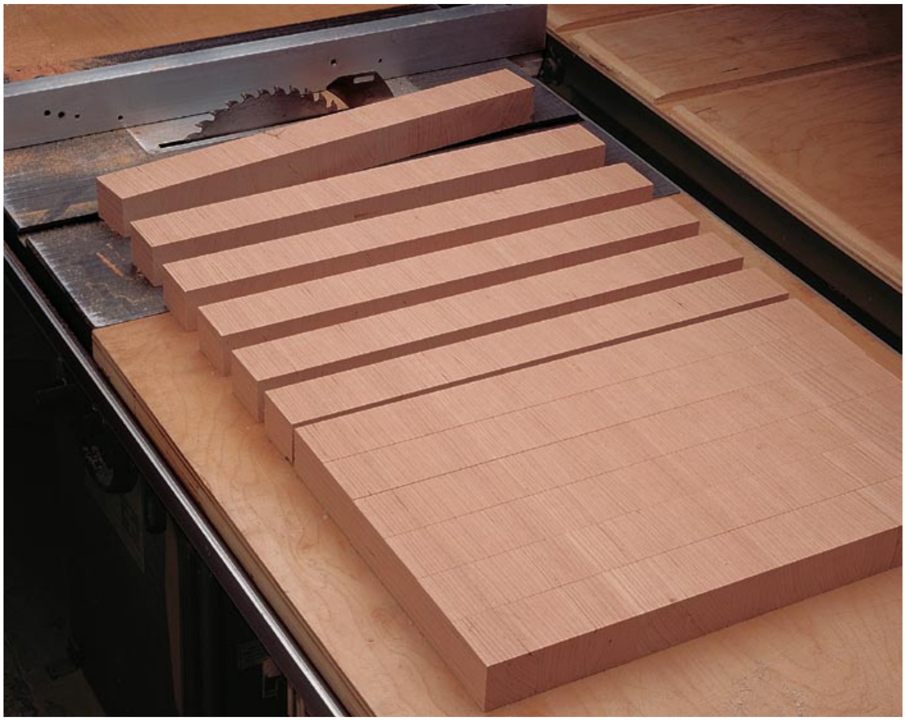


PHOTO A: Crosscut the glued-up blank into 2-in.-wide strips.



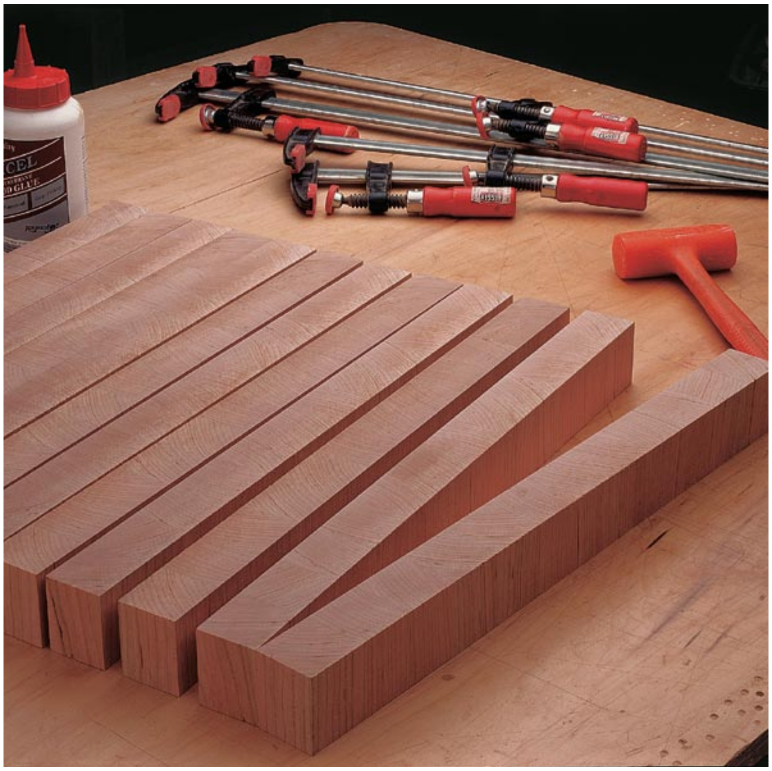


PHOTO B: Turn the strips on edge and arrange them until the grain patterns are pleasing.

this; it's crucial that the top and bottom surfaces be flat and parallel for the next step. If you have access to a wide belt sander or a planer wide enough to handle this piece, then by all means take advantage of it.

5. Square up one end of this perfect plank.

6. Crosscut the plank into 2-in.-wide pieces (see **photo A**).

7. Take these pieces and turn them so that their end grain is facing up.

8. Rearrange them to form a 20-in. by 20-in. by 2-in. square. I think it looks better if the end-grain squares look randomly placed, so move the parts around until you get a pleasing arrangement. When you are satisfied with how your block looks, glue the parts together, as in step 3 (see **photo B**).

Flattening the Top

Once your cutting board is assembled and the glue is dry, it's time to flatten and smooth the top and bottom surfaces. The hardest way to do this is also the most satisfying, since it leaves an absolutely exquisite surface. I'm talking, of course, about hand-

POLYURETHANE GLUE

Polyurethane glue is useful to glue up butcher-block tops for a number of reasons:

- Polyurethane is waterproof. Cutting boards will probably be cleaned and wiped down often with water.
- It's a single-part glue. There are other waterproof glues available, but most require mixing two parts. With polyurethane glue, there's no mixing involved.
- It has a reasonable open time. When you're rushing to put clamps on before the glue sets, you'll appreciate this feature.
- It's easy to spread; in fact, it acts as something of a lubricant in bringing joints together. It doesn't grab like a polyvinyl acetate (PVA) glue, so you can easily and more accurately line up and position the parts.
- You only have to spread polyurethane on one of the mating surfaces (something you will appreciate when gluing up this top!).
- As it cures, the glue expands into the wood fibers, strengthening the bond.
- It needs only minimum clamping pressure, requiring only that the parts be firmly held together. In fact, if you use too much clamping pressure you'll starve the joint and get a poor bond.
- Dried polyurethane is extremely easy to work; it won't clog your sandpaper or dull your cutting tools.
- On the down side, it doesn't clean up with water. Keep a rag and a can of acetone handy to wipe away glue squeeze-out and, if necessary, to clean your hands and clothes.

To ensure a good bond with polyurethane glue, remember that it cures in the presence of moisture. If the wood and/or the environment is particularly dry, try spraying a small amount of water onto the mating portion of the joint before clamping.

Polyurethane glues also like a little "tooth" or roughness to the joint. As the glue expands, it gets into and around this tooth and forms a mechanical bond. If your wood is glass smooth, the glue can't penetrate well and you could get a joint failure. For a piece that has been through the planer, a light scuffing of the surface with a piece of 80-grit sandpaper will give you enough tooth. Parts directly off the tablesaw are perfect just as they are.

planing! It takes a sharp plane, some time, and a lot of elbow grease, but nothing else will produce as nice a finish. A handplaned finish on side grain is a sweet thing, but a well-executed handplaned finish on end grain leaves the cherry feeling and looking like polished stone. It is quite astounding!

1. Set a smooth plane to take very thin shavings. I use a Record® #4½ (Stanley® makes an almost identical version). This is a slightly larger version of the #4 smooth plane. It is 10½ in. long and 2⅜ in. wide. The extra weight and size coupled with a wider-than-normal blade make it a good choice for this type of work, where you have a large, difficult surface to plane. The extra blade width makes it a little harder to push, but in this case you will be taking very light shavings. Regardless of your plane choice, it has to be extremely sharp and well tuned; you will probably have to hone it a couple of times during the work.

2. Always work toward the center of the piece to avoid breaking out the edges. Then just work the piece bit by bit until it is smooth and beautiful (see **photo C**).

Just so you don't think that I'm a handplane nut, I'll tell you how to get a really nice finish with less work: Just sand it (though it's still not as easy as it sounds!).

PHOTO C: The time and effort necessary to handplane end grain pay off with a glass-smooth finish.

1. With a belt sander, flatten the surface with 80 grit sandpaper.

2. Work your way up to 120 grit with the belt sander.

3. Switch to a finish sander, preferably a random orbit.

4. Go back to 100 grit and get rid of all the belt-sander marks. Then work your way up to 320 grit (or 400 grit, if you can stand it), at which point you will have a good approximation of the planed finish.

For those of you who think that this is all crazy—seeing that this is a cutting board after all and will be chopped and hacked daily—I have a third option for you: Just stop sanding when the board is flat and reasonably smooth.

Finishing

I finished this cutting board with some mineral oil, which is food-safe and attractive. There are a number of other food-safe finishes on the market, but mineral oil is inexpensive and easily available. This is important, since you will have to reoil your block fairly often if you use it a lot.

MAINTAINING A WOOD TOP IN THE KITCHEN

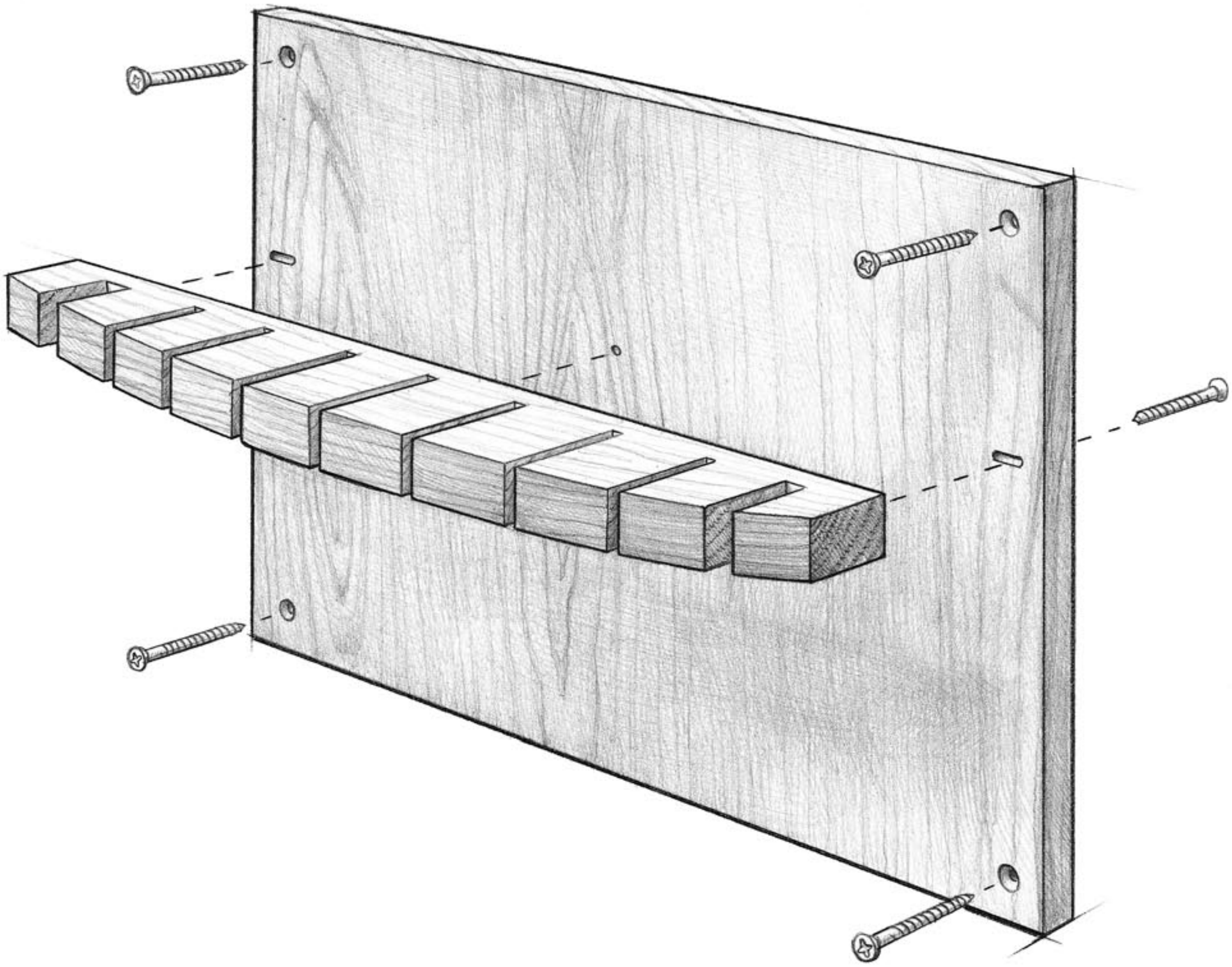
Hardwood cutting surfaces are very attractive and durable, but are wooden surfaces sanitary or difficult to maintain? Although there is some controversy as to whether wooden cutting boards are sanitary compared to plastic ones, wood ones are safe enough if taken care of properly.

Simple use of normal hygiene (soap and water) when cleaning any cutting surface is certainly in order. I also periodically use a weak solution of bleach (10 parts water to 1 part bleach). The solution won't harm the wood, and it helps keep the bacteria under control.

If your cutting board appears a bit dull after repeated use and cleaning, a simple reapplication of mineral oil (which is sanitary and food-safe) will brighten the finish and nourish the surface.

One last point: If and when your board gets to the point where you feel it is too unsightly, you can just turn it over and use the other surface. When that side needs to be spruced up, simply resurface it. Since it's 2 in. thick, you will be able to do this many times.

KNIFE RACK



Construction and Assembly

I HAVE ALWAYS LIKED THE NOTION of a knife rack: a special place to keep kitchen knives safe, sharp, and accessible. Good knives are expensive, and the idea of just throwing them into a drawer seems disrespectful at best.

The problem is that most knife racks or holders either take up counter space (as in your common knife block) or hide the blades of the knives (clearly a safety measure), forcing you to identify a knife by its

CUT LIST FOR KNIFE RACK

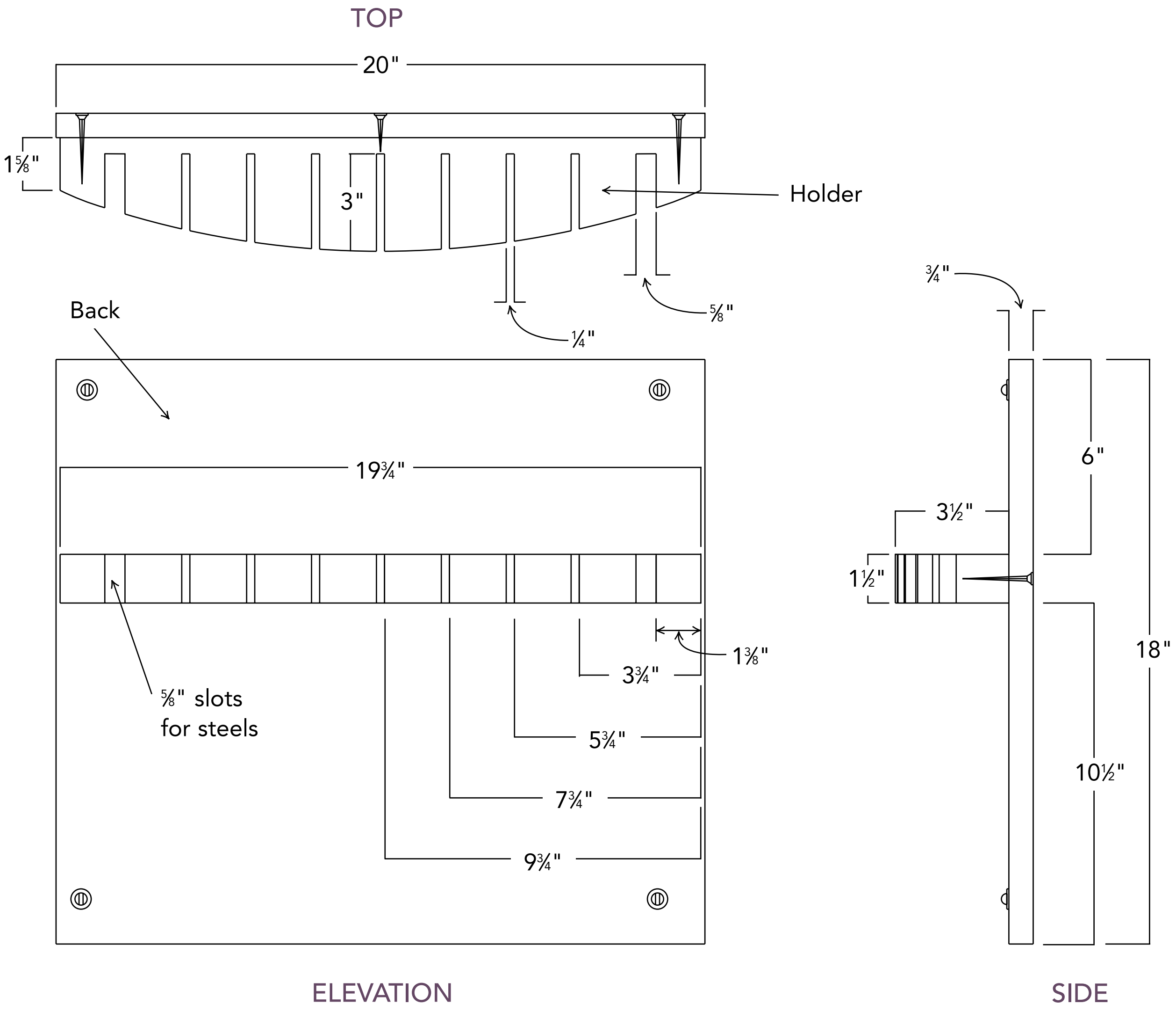
1	Back	¾" x 18" x 20"	solid cherry
1	Knife holder	19¾" x 1½" x 3½"	solid cherry

Other materials

	Polymerized tung oil	
2	Wood screws	#8 x 2"
1	Wood screw	#8 x 1"
4	Brass panhead screws with washers	#8 x 2"

Top, Elevation, and Side Views

This rack keeps knives safe but within reach. The blades are visible to help you pick out the right knife. It can accommodate knives of any size, plus two sharpening steels.



handle. To overcome these issues, I designed a rack that mounts on the backsplash under the cabinets at the back of the counter. This location reduces clutter on the counter and keeps knives within arm's reach but out of the reach of small children; with the blades visible, it is easy to identify the knife you wish to use.

Knife Holder

1. Joint and plane a piece of cherry to 3½ in. by 1½ in. by 19¾ in.
2. Place a ¼-in. dado blade in your tablesaw, set to a height of 3 in.
3. Set your tablesaw fence to the largest of the slot-position dimensions. This will be the center slot.

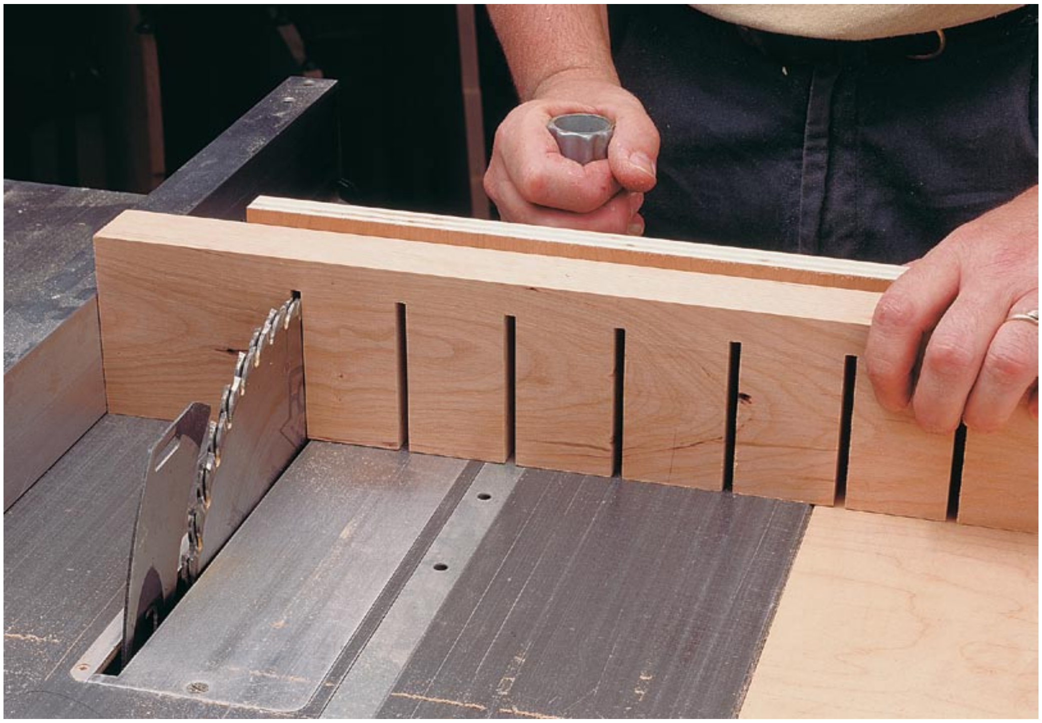


PHOTO D: Cut the slots for the knife blades on the tablesaw while the workpiece is still square.

4. Place the workpiece against your miter gauge, set at 90 degrees, with the end against the fence, and make the first slot cut. Make sure you place a piece of scrap wood behind the workpiece to avoid tearout when the sawblade exits the workpiece.

5. Reposition the fence to the next smallest dimension and make the next cut.

6. Without changing the position of the fence, rotate the workpiece so that the opposite end is against the fence and make a cut.

7. Repeat this sequence until you get to the smallest dimension. The procedure is the same for these cuts, but you will need to change to a ⅝-in. dado blade. The ⅝-in. slots are designed to hold sharpening steels but will hold other items as well, such as a carving fork (see **photo D**).

8. Lay out the curve on the front of the piece that goes from the center of the front of the piece to 1⅝ in. from the back at each end.

9. Carefully cut about 1⁄16 in. from the line using a bandsaw (see **photo E**). A jigsaw or a coping saw will also work.

10. Sand to the line, and continue to finish-sand the entire piece to 150 grit.

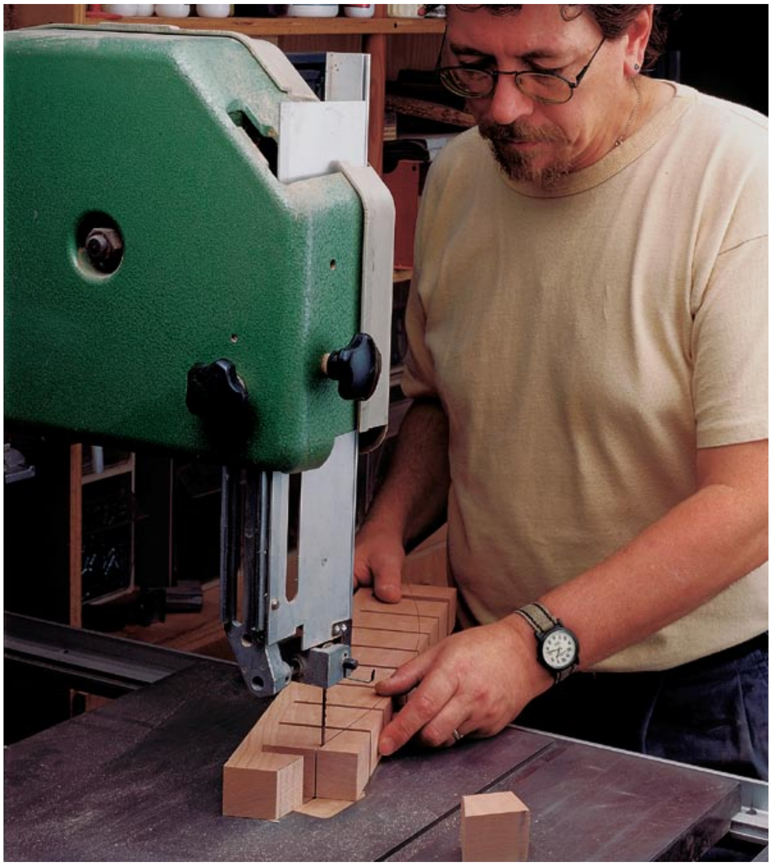


PHOTO E: Guide the workpiece smoothly through the bandsaw to ensure an even curve on the front edge.

DESIGN OPTIONS: SMALLER HOLDER AND ALTERNATE HOLDER

Smaller Holder

It occurred to me while building the knife holder that by simply making the back of this holder smaller you can put it other places in the kitchen. You could still place it where I have suggested, but with a smaller back you could move it to another wall-mounted location without it looking out of place, as it would with the full back. The full back does provide some extra wall protection, but otherwise it should work the same (see photo).

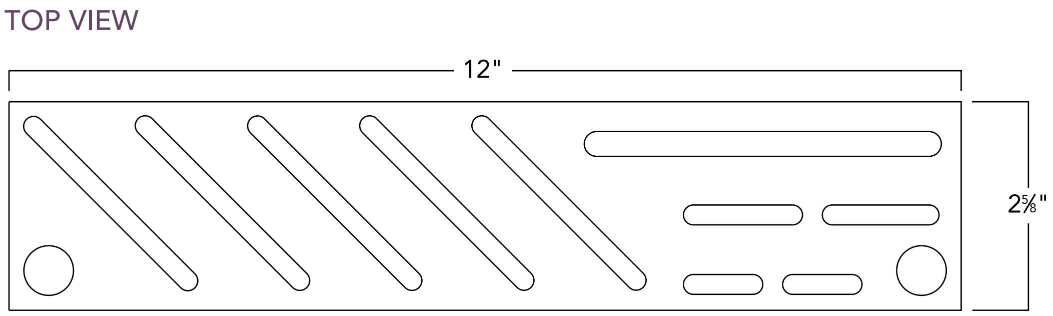
Alternate Holder

I spent a great deal of time determining the best layout of slots to hold the most different kinds and sizes of knives. While I settled on the one presented in this chapter, it was by no means the only configuration I came up with. One other slot configuration I particularly liked is shown here (see "Optional Knife Holder").

I ended up not using this holder because it requires the knives be lifted clear rather than just pulled forward from the slots. This would not have worked for the location I chose, but would be a good choice for a closed box holder or a straight counter insert. You would have to make a template for routing the slots. Alternatively, you could drill a hole at the ends of the slots, carefully cut them out with a jigsaw, then file and sand to the lines. This holder accommodates nine knives, one cleaver, and two sharpening steels.

A shorter back works as well as a full back and offers a different look, though it provides less wall protection.

Optional Knife Holder



This holder is 1¼" thick and can accommodate five slots 3" x ¼", two slots 1½" x ¼", two slots 1" x ¼", one slot 4½" x 5⁄16", and two holes for sharpening steels ⅝" dia.

Back

The back is nothing more than a piece of cherry 20 in. wide by 18 in. long by ¾ in. thick. You can adjust the length to suit the space you have available, but make sure you have enough height for the longest knife you wish to store. I placed the top of the holder 6 in. down from the top of the back, which works for my knives. You may have to adjust this slightly up or down.

The knife holder is attached to the back with three screws, through the back and into the holder. You may have noticed that the holder is ¼ in. shorter than the back is wide. This is to allow the back to move seasonally and not have the holder stick out past the edge of the back if the back shrinks.

1. Joint, plane, and edge-glue enough cherry stock to produce a blank big enough for the back.
2. Trim the blank to size and finish-sand it.
3. Drill and countersink a hole for a center screw. Use a shorter screw, so as not to invade the center slot.
4. In order for the back to be able to move freely with seasonal wood movement, horizontally elongate the two outer attachment screw holes. Drill and countersink two overlapping holes for the screws on the ends (see **photo F**).

Finishing

I finished this piece with a polymerized tung oil, but any quality furniture oil will do. You don't need a food-safe oil, since you will not be preparing food on your knife rack. You do, however, want an oil that will wear well. You don't want to have to take this rack down too often to re-oil it.

Attach the rack to the wall using four decorative brass panhead screws with washers, one in each corner. Be sure to elongate the screw holes before to allow for movement. The washers will cover the holes.

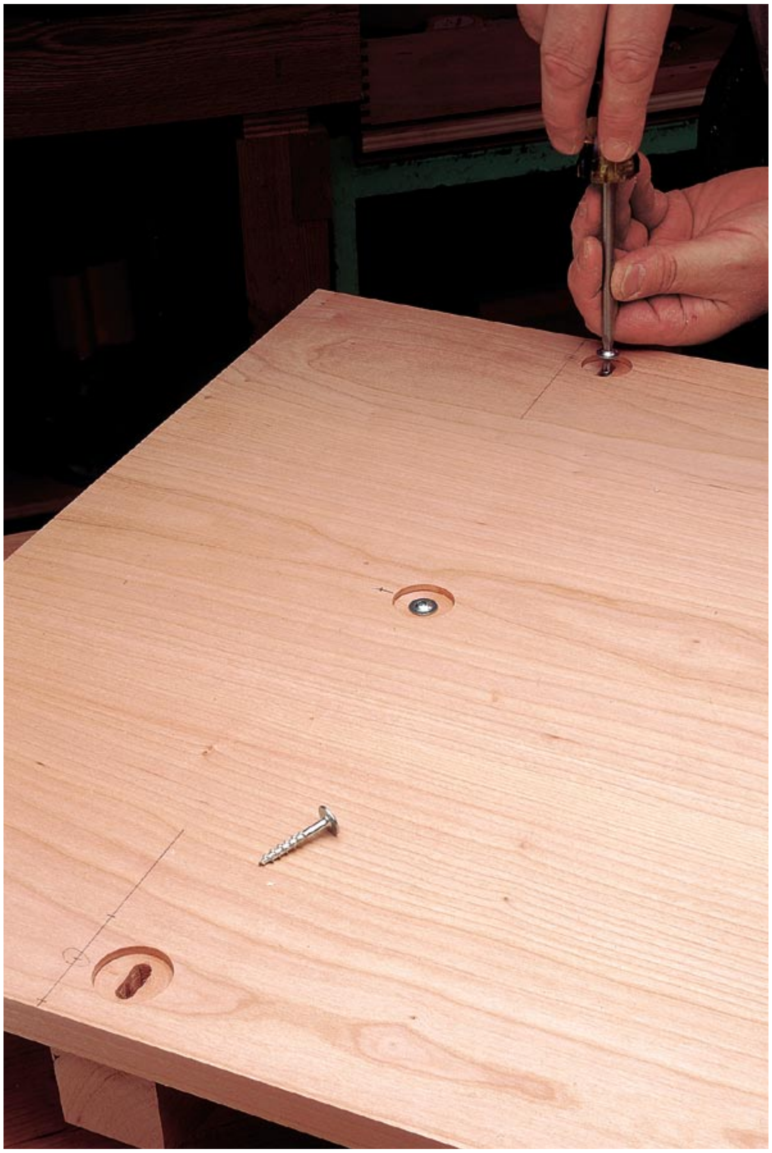
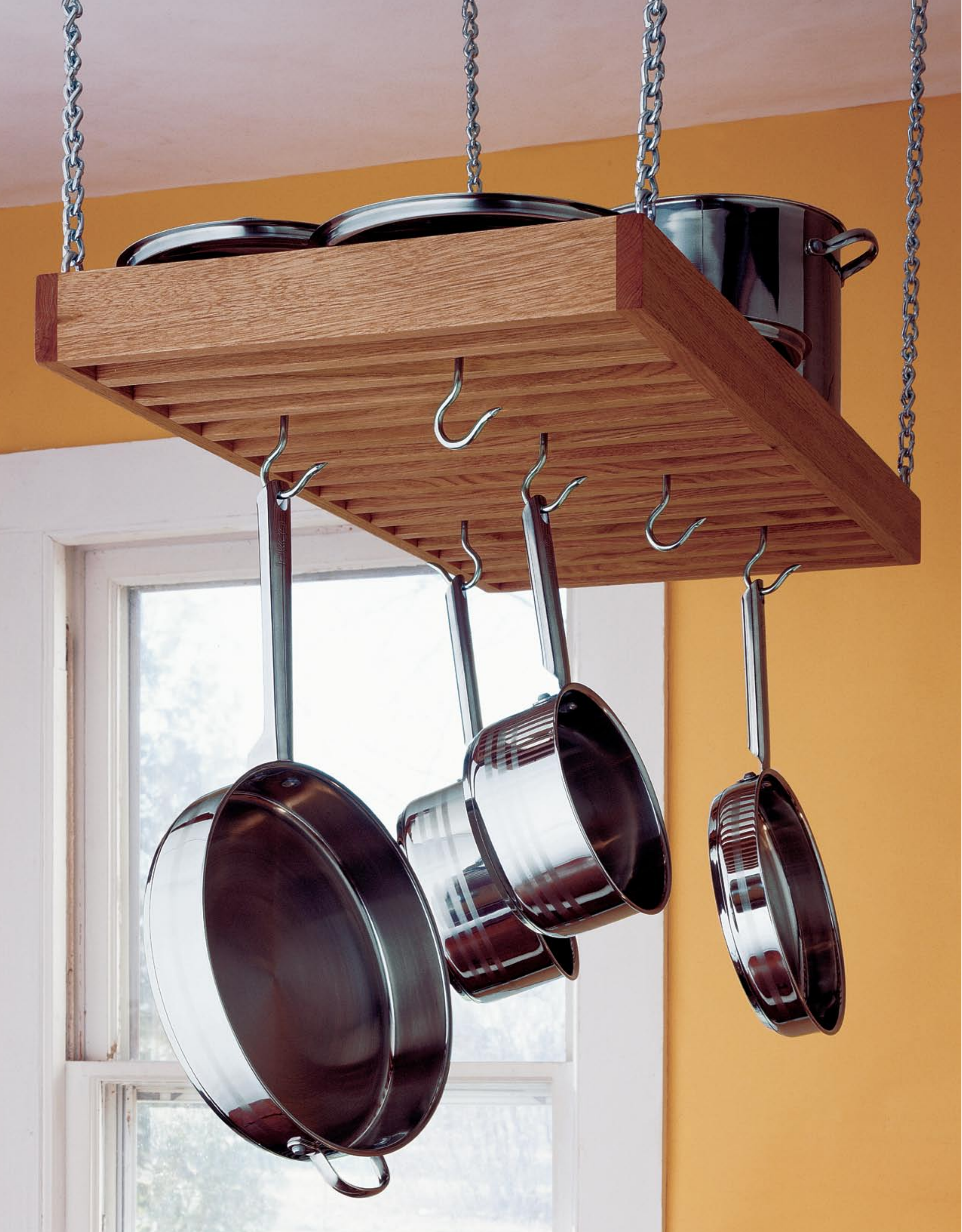


PHOTO F: Cut elongated screw slots at the ends of the back to allow for seasonal wood movement.



HANGING POT RACK

Niall Barrett

POTS AND PANS PRESENT ONE of the more difficult and frustrating storage problems in the kitchen. Since they are often the largest kitchen utensils, even a small set can take up a considerable amount of space. We often end up stacking pans one inside the other in an effort to save space. This can lead to scratched and damaged pots. And inevitably the one we need is always on the bottom. The most common place that pots and pans end up is inside a base cabinet. In this location, finding the right pot often requires crawling, or at least kneeling, on the floor.

Commercial kitchens solve these problems by hanging pots and pans overhead on racks designed for this purpose. Usually made from metal and quite large, these racks can be ungainly. They can look out of place it some kitchens. Also, it can be difficult to safely hang these racks from a residential ceiling, since they can be quite heavy by themselves, before ever adding a pot!

The rack presented here is an elegant and practical solution to storing your cookware. It has the warmth of wood construction, and it is sized to fit the scale of a normal kitchen. In a kitchen with an average ceiling height (approximately 8 ft.), a pot rack should hang 16 in. down from the ceiling. This would put the top of the rack at 80 in. off the floor, about the height of the average doorway. This can, of course, be varied according to personal taste. Just remember that they shouldn't be hung so high that you need a stool to reach everything or so low that the pots hang in your way. Often they are hung over an island so they are centrally located and close to the action but away from the worst of the cooking grease and out of forehead-striking distance.

ORSETTO
MONTEPULCIANO

WINE RACK

Niall Barrett

WINE CELLARS ARE ROMANTIC places. Dusty bottles sleep in orderly rows in a dark, moist, cool climate, waiting to be dusted off, brought upstairs, and enjoyed.

But you don't really need a fancy, expensive cellar to store and age your wines. In fact, not all wines are meant to be aged. If you're like most wine consumers, you'll enjoy your wines soon after you bring them home. A relatively small wine rack, located in an appropriate place, will be fine for housing your wines.

Wine cellars are ideal places to store wine. But it's possible to store wine upstairs quite well by keeping a few things in mind. Temperature fluctuations, sunlight, and movement are the biggest enemies of wine.

People commonly make the mistake of storing wine in a rack in a brightly lit room where it gets both hot and cold. It may look nice, but the wine will turn quickly. Ultraviolet light will penetrate even dark-colored glass, so avoid direct sunlight.

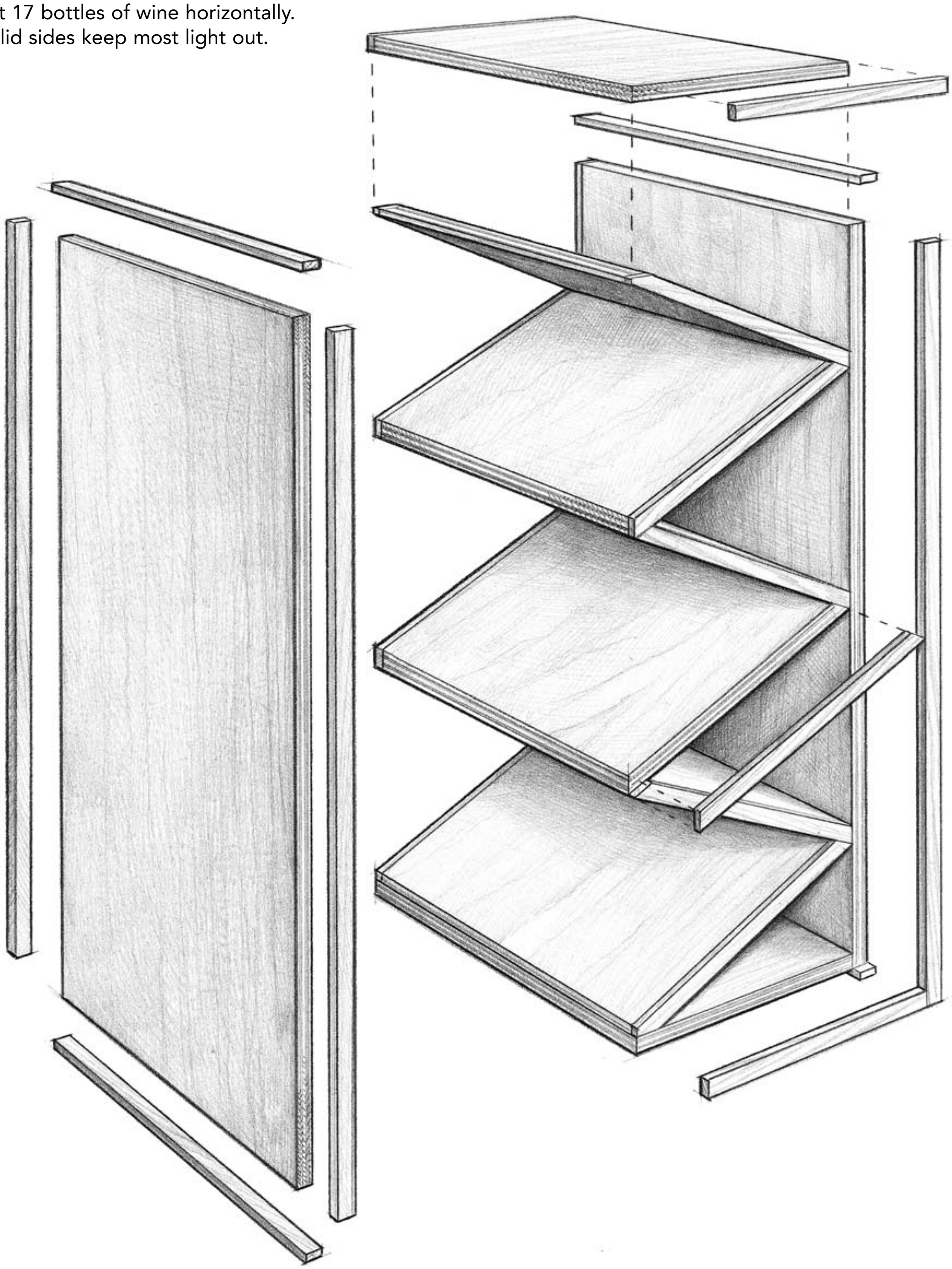
Ideal storage temperature is between 55°F and 65°F. More important, the temperature should be constant. A slow change of 10 or so degrees between seasons is not a big problem. But this kind of fluctuation on a regular basis will damage your wines.

Last, vibration disturbs a red wine's sediment and can be harmful to all wines, so the top of your refrigerator is not the best location.

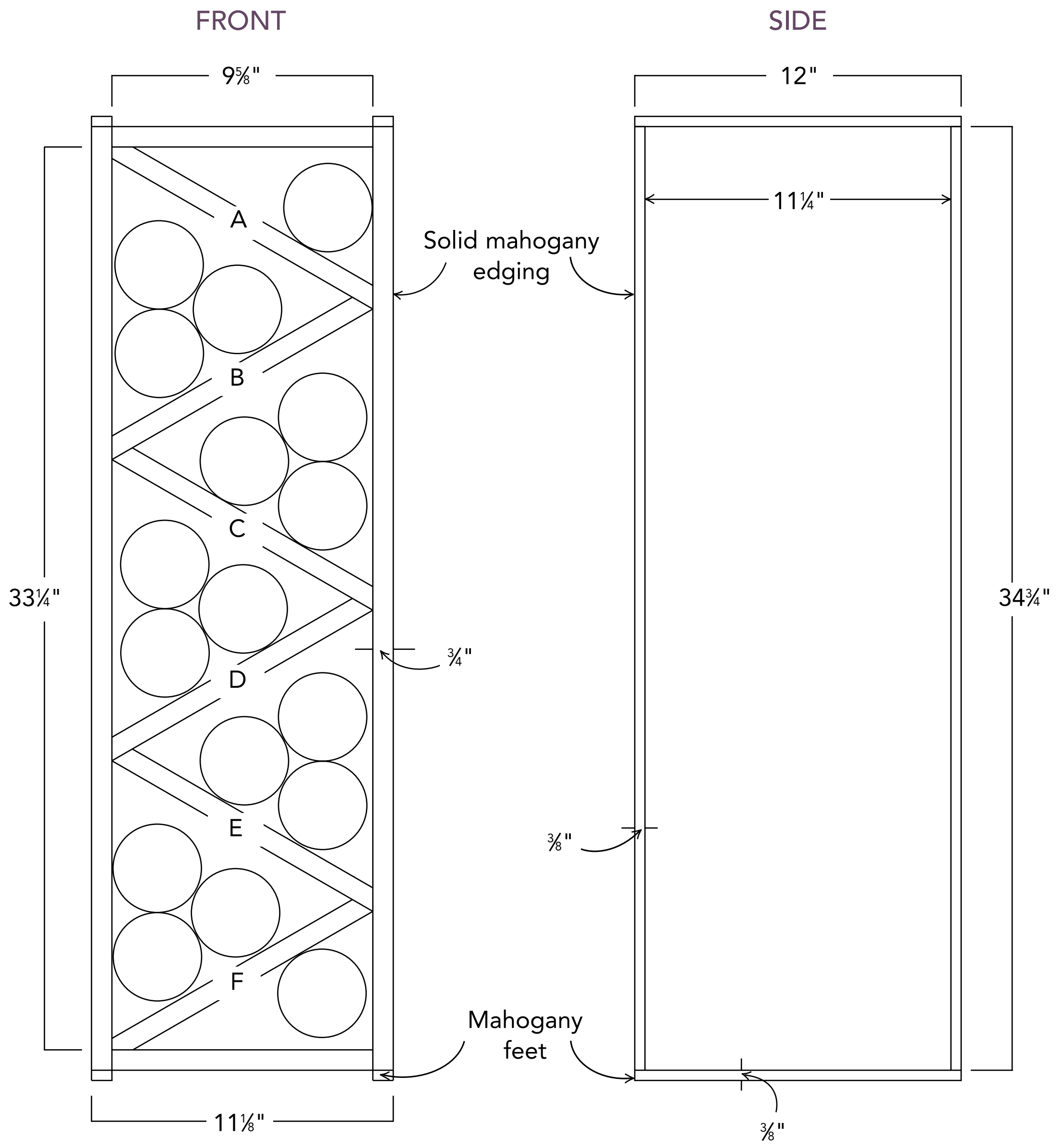
This rack will hold about 17 bottles of wine and, like all good wine-rack designs, stores the wine horizontally so that the wine stays in contact with the cork. This prevents the cork from drying and shrinking, which would allow air to enter the bottle and negatively affect the wine's flavor. The solid sides keep the wine in relative shade.

WINE RACK

This mahogany wine rack will store at least 17 bottles of wine horizontally. The solid sides keep most light out.



Front and Side Views



Construction and Assembly

WHILE THIS DESIGN LOOKS simple, it's a little tricky to build. If you follow my directions precisely, though, I guarantee it will all work out. It's a matter of accuracy: The interior dimensions of the box have to be exactly as given in the drawing. The space thus created is precisely the right size to hold the partitions, provided they are cut to the right size and their angles are exact (see "Exact Partition Sizes" on p. 148). If the box size changes slightly, the length of and angles on the ends of the partitions must also slightly

CUT LIST FOR WINE RACK

2	Top and bottom	9⅝" x 11¼“x ¾"	mahogany plywood
2	Sides	34¾" x 11¼" x ¾"	mahogany plywood
5	Partitions	11⅛" x 10½" x ¾"	mahogany plywood
1	Top partition	11⅛" x 10½" x ¾"	mahogany plywood
4	Feet	12" x ⅜" x 13⁄16"	solid mahogany
20 linear ft.	Edging	⅜" x ¾"	solid mahogany

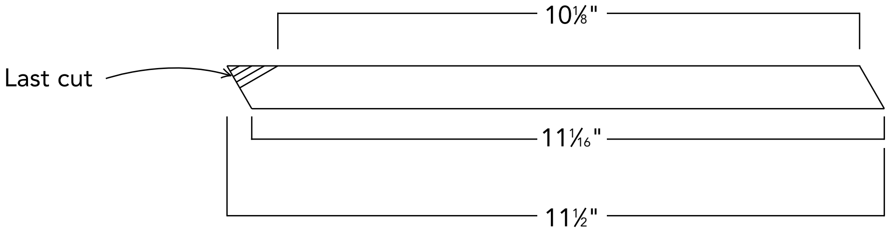
Other materials

12	Brass screws	#10 x ¾"

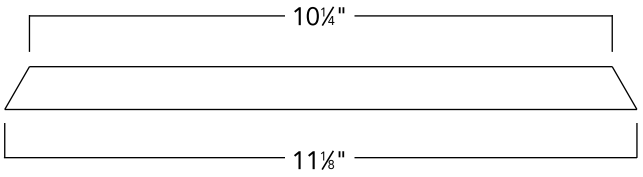
Exact Partition Sizes

All partitions are cut on the ends at 60°. The last cuts on partitions A and F are at 90° to the 60° cut.

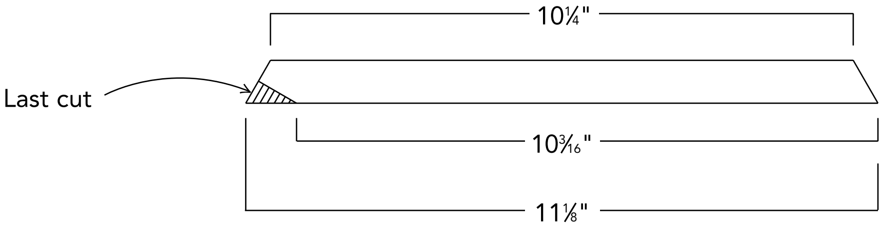
A



B, C, D, E



F



change. You can see the potential nightmare of adding 5/32 in. to each partition and trying to cut something like a 58¼-degree angle.

Cutting the Sides and Partitions to Size

The first step is to cut all the plywood parts.

1. Cut all the parts to the widths given in the cut list, leaving all the parts about 2 in. too long. The sides for the box are ¾ in. wider than the partitions because the partitions are inset front and back by as much.

2. Mill enough solid-mahogany edging stock to cover the front and back edges of all the parts.

3. Glue and clamp this edging to all these edges and set them aside to dry. It's easiest to leave this edging a little wide and long, so you can trim it flush after the glue has dried. This kind of edging is difficult to align perfectly, so if you leave some extra and it slides a little while being clamped, it will still cover the edges. When these parts are dry, trim all the edging flush with the faces of the plywood.

4. First trim the excess off the ends. This can be done very quickly by crosscutting ¼ in. or so off each end, which should still leave about 1½ in. of extra length.

5. Trim the excess from the sides. The quickest way to accomplish this is with a flush-trimming bit in your router. As long as you haven't left too much extra, you shouldn't have any splintering problems. You could also use a sharp block plane or even a sanding block. Regardless of the method you use, make sure that the edging ends up completely flush and level with the sides. If there is any rounding, it will show where all the parts come together.

Building the Box

It's hard to get out of the rut of measuring outside dimensions, but the most important thing to remember for this project is that the inside measurements are what count. I have also given you outside measurements for this wine rack, but these assume that the plywood you are using is exactly ¾ in. thick. As you may or may not know, ¾-in. plywood is rarely exactly ¾ in. and can be as much as 1/16 in. under. If you multiply this by two (the number of sides), you can make a box with interior dimensions as much as ⅛ in. off, more than enough to throw off the fit of the partitions. Other than that, it's just a box put together with biscuits.

1. Size the sides, top, and bottom for a box with inside dimensions of 33¼ in. by 9⅝ in., factoring in any stock-thickness variations.

2. Cut the biscuit slots so that the top and bottom are between the sides when assembled.

3. Finish-sand the inside faces of the box parts to 150 grit.

4. Glue, biscuit, and clamp the parts together. Make sure the box is still a true rectangle when clamped up.

5. When the glue is dry, finish-sand the outside.

Making the Feet

The box has four feet, attached with some brass screws over the plywood edges that show on the top and bottom of the box. Not only will these cover the raw plywood edges, but they also lift the bottom of the box slightly.

1. Mill four pieces of mahogany 12 in. by ⅜ in. by 13/16 in. for the feet.

2. Drill three countersunk holes, sized to brass screws at even intervals in each foot.

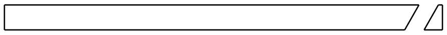
Making the Partitions

This part is not difficult, nor will it take very long, but you must be accurate (see "Summary of Cutting Sequence for Partitions" on p. 150).

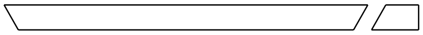
1. Set the blade on your tablesaw to 60 degrees.

Summary of Cutting Sequence for Partitions

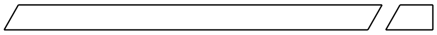
All cuts are made on the tablesaw.



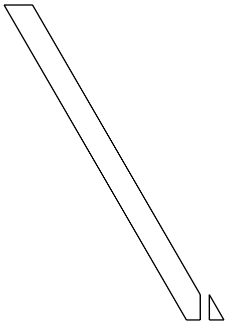
Step 1: Cut a 60° angle on one end of all six partitions.



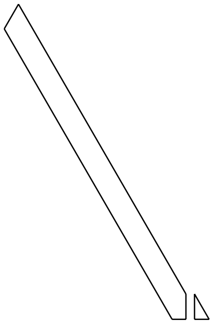
Step 2: Take five partitions, and cut matching angles on the opposite ends.



Step 3: Take the remaining partition, and cut a complementary 60° angle on its opposite end.



Step 4: Take the piece from Step 3. Using an angle-block carrier, hold the piece at 60° to the blade and cut the end off.



Step 5: Take one of the pieces from Step 2. Using an angle-block carrier, hold the piece at 60° to the blade and cut the end off.

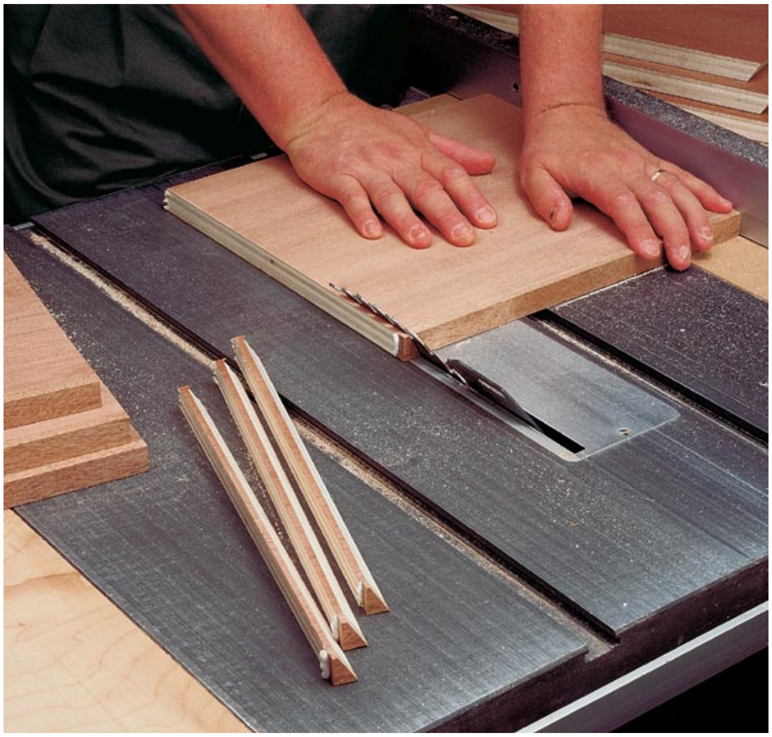


PHOTO A: Cut 60° angles on the ends of every partition.

2. Set the fence so that each cut will take off about ⅛ in. to ¼ in. more than you need. This will ensure a splinter-free cut.

3. Rip a 60-degree angle on one end of all six of the partitions (see **photo A**).

4. Reset the fence to 11⅛ in. and rip a matching 60-degree angle on the opposite end of five of the six partitions. The same face of the partition should ride on the table during the cut.

5. Attach an auxiliary fence that sits perfectly flush with the table and set the fence to cut at 11½ in. This auxiliary fence must lay tight to the table surface. The next cut requires that the long point of the last partition rides on the table and against the fence. You don't want any space under the rip fence under which the point could slip.

6. Cut a complementary 60-degree angle without a bevel on the end of the last partition (see **photo B**). (This partition is shown as "A" in "Exact Partition Sizes" on p. 148.)

7. Make an angle-block carrier to hold the top and bottom partitions ("A" and "F" on p. 148) at 60 degrees to the sawblade. This allows you to cut the secondary angles that are at 90 degrees to the 60-degree angles. A simple block of wood about 18 in. long by 1¾ in. high by 2½ in. wide will work fine (see "Positioning Angle-Block Carrier").

8. Attach one of the two partitions to this block with some double-sided tape. (Both of these partitions will be cut the same way, with the same exact setup.)

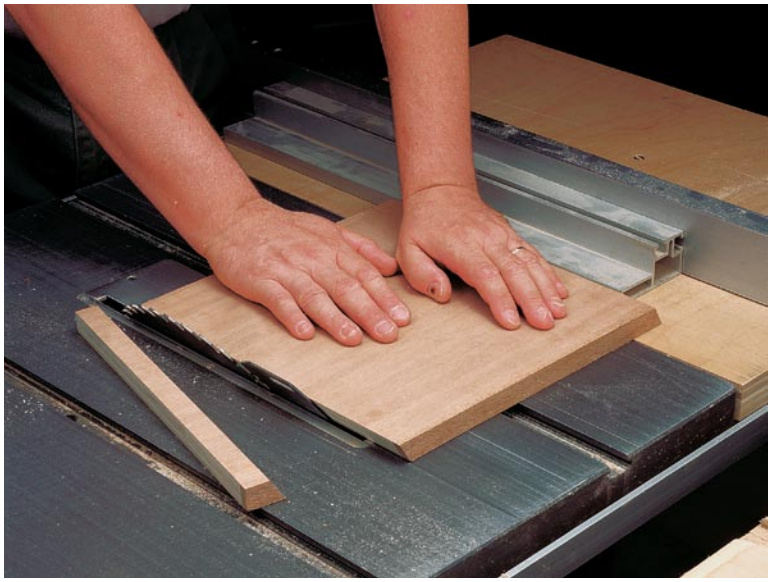
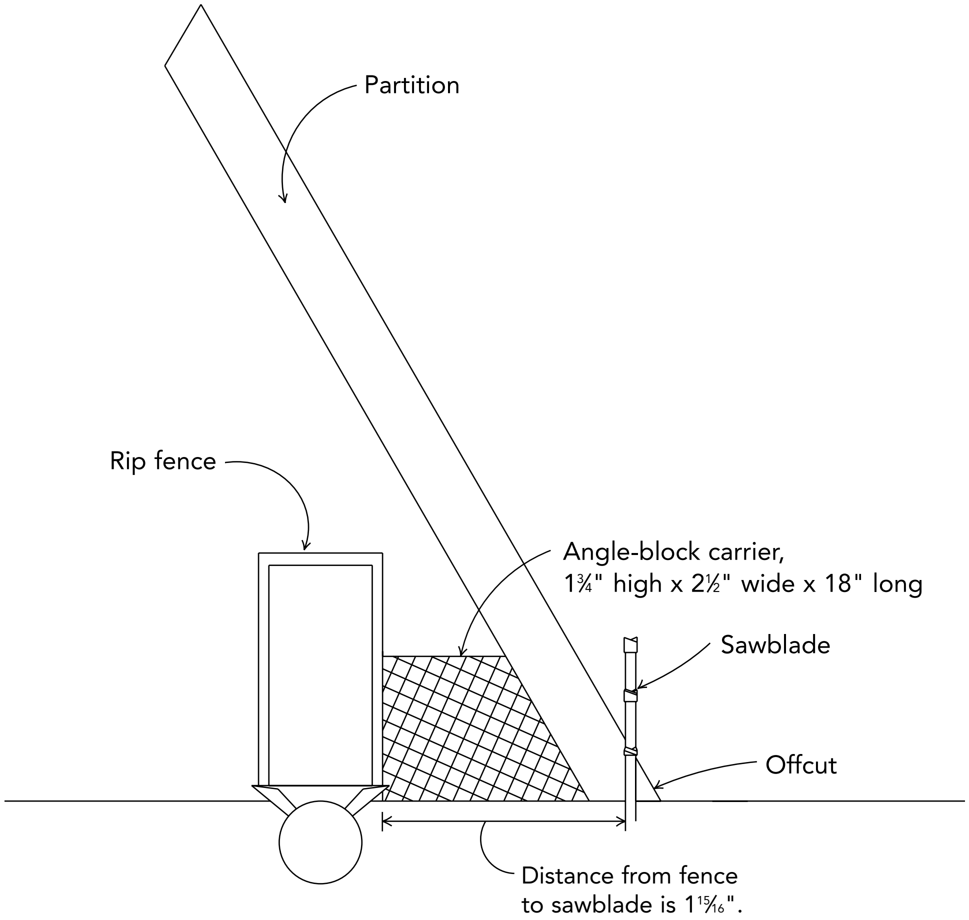


PHOTO B: Cut a complementary 60° angle on the ends of the top partition ("A" on p. 148).

Positioning Angle-Block Carrier


Partition
Rip fence
Angle-block carrier, 1¾" high x 2½" wide x 18" long
Sawblade
Offcut
Distance from fence to sawblade is 1$^{15}/_{16}$".

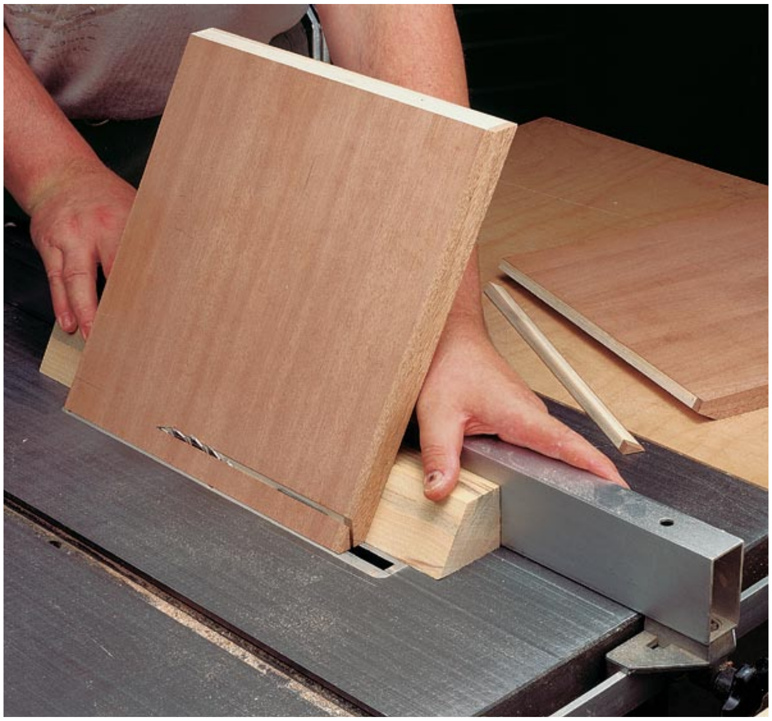


PHOTO C: An auxiliary block angles the top and bottom partitions to cut the corners of one edge at 90° to the 60° bevel.

9. With the blade at 90 degrees to the table, set the rip fence 1$\frac{15}{16}$ in. away from the blade. Then run the partition through (see **photo C**). Repeat the procedure for the other partition. (Use "Exact Partition Sizes" on p. 148 to check that you've got your angles oriented properly.)

Assembly

Before you glue the partitions in place, do a dry assembly to check the fit.

1. Stand the box on end.

2. Starting at the bottom, place the partitions in the box one on top of the other (see **photo D**).

The accumulating weight of the partitions will spread the sides of the box a little, which is good since it will allow room for the last partition to be inserted. However, it will make it look as though nothing fits right, since the partitions are settling toward the bottom of the box. Don't worry.

3. Take some clamps and, working from the bottom up, position them front and back across the box at the joint of each partition.

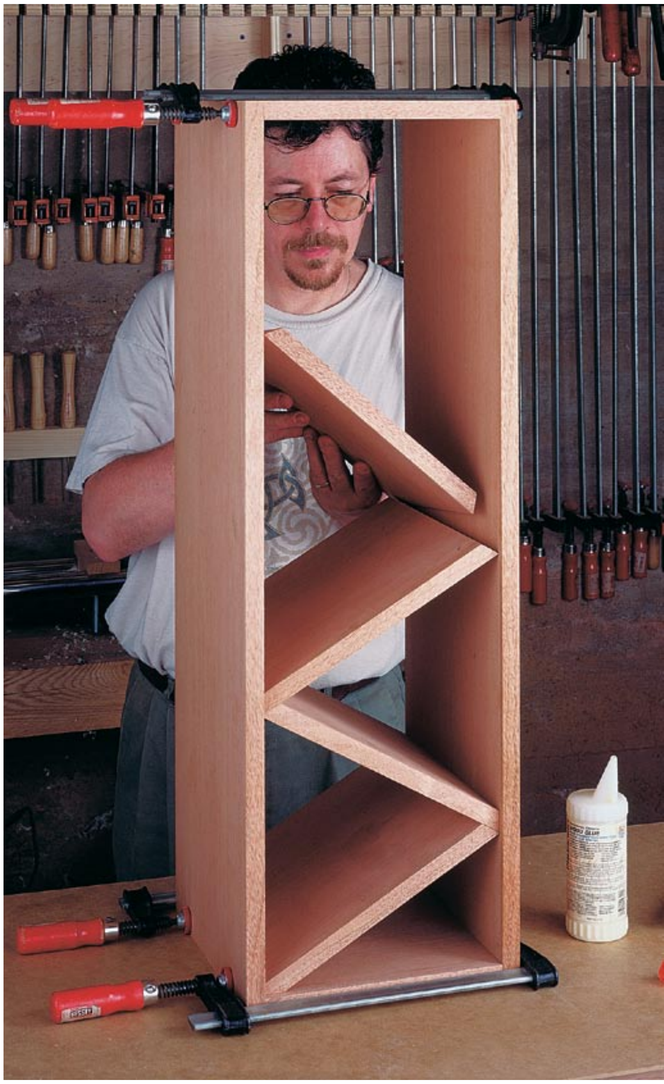


PHOTO D: As you stack the partitions in the box, the sides will bow a little bit, making it easy to insert the top partition.

4. Lightly tighten the clamps as you go until the partitions fill up the space. If all the partitions have been cut correctly, they will lie nicely one on top of the other with all the intersecting joints tight.

5. Just to be sure, check that the box is the same width in the center as it is at the top and at the bottom; also, check the diagonals to be sure it is square.

6. Once you are satisfied with the fit, remove the partitions and finish-sand them to 150 grit.

DESIGN OPTION: SIDEWAYS IS FINE, TOO

This piece is finished front and back so it can be placed in a variety of places. It doesn't have to be placed against a wall. It's about the right height to sit at the end of some base cabinets or even lie on its side on a counter. I'm sure it would fit in just fine in other rooms in the house, not just the kitchen. So experiment a little; try it in a few places until it feels right. Just remember the precautions about temperature, light, and movement mentioned in the chapter introduction. You want your wine to taste as good as it looks in this rack.

7. Starting at the bottom again, carefully apply a light bead of glue down the center of each end of the first partition and place it in the box. Remember that the partitions are set in ⅜ in. front and back from the edges of the box. Make sure to keep glue away from the last inch or so of the edge at the front and back. This will be plenty of glue to hold things together, and this way it shouldn't make a mess (which otherwise would be very difficult to clean up).

8. Continue gluing and installing partitions until they are all in. The box should spread a little like before, and you should have no problem getting the top partition in without smearing glue on the inside of the box. If it's tight, just spread the sides a little with your hands and it should be fine.

9. Clamp it up just as you did during the dry assembly and check for square (see **photo E**). That's it!

Finishing

This is a very difficult piece to spray finish (or oil for that matter). The compartments created by the partitions make it difficult to get the finish inside. But like an old cabinetmaker I used to know once said, it's also difficult for anyone to see if it's finished in there! So I ended up spraying it the best I could with some satin lacquer. It looks fine—but don't you dare pull out a bottle just to see how well it's finished inside.

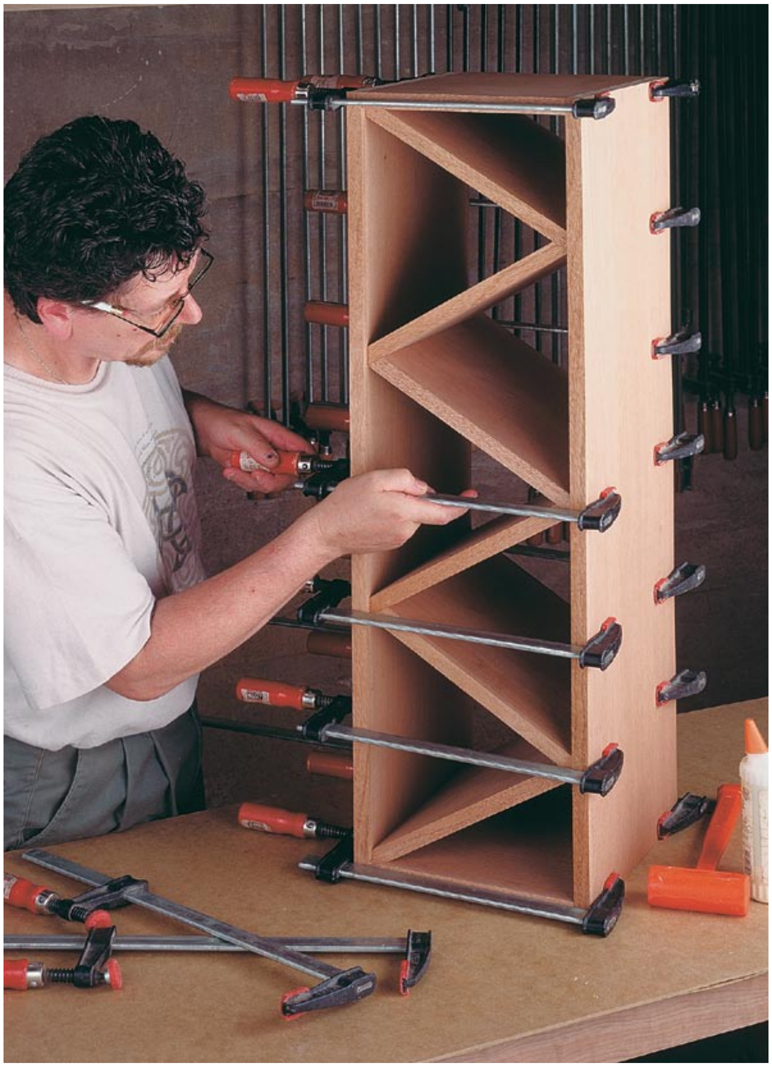


PHOTO E: Clamp the case sides together at each partition joint, both front and back. The clamping will make the top partition joint snug.

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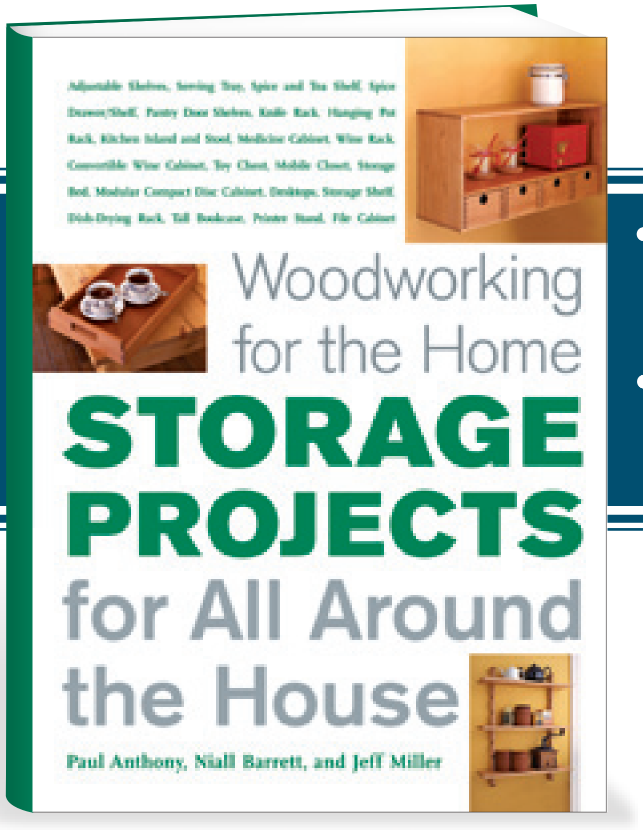

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